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EXAMINER
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BATURAY, ALICIA

ART UNIT	PAPER NUMBER
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2155

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

09/933,582

Applicant(s)

TORABI, MOHAMMAD

Examiner

Alicia Baturay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This Office Action is in response to the amendment filed 20 October 2006.
2. Claims 1-17 and 19-22 were amended.
3. Claims 1-22 are pending in this Office Action.

### ***Response to Amendment***

4. The objection to claims 1, 17, 20 and 21 regarding minor informalities was addressed and is withdrawn.
5. Applicant's amendments and arguments with respect to claims 1-22 filed on 20 October 2006 have been fully considered but they are deemed to be moot in view of the new grounds of rejection.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Filo et al. (U.S. 6,215,498) and further in view of Barnes et al. (U.S. 6,711,147).

Filo teaches the invention substantially as claimed including a virtual work environment that emulates an actual military command post, with all of the instruments and familiar surroundings emulated in function if not in form. The terminal users of the environment (i.e., the commanders and staff) immerse in this environment via virtual reality displays (audio and video) and inputs (microphone, body encoders and pointing devices) connected to individual personal computers. The avatars are able to interact with one another in the virtual environment and they are able to select and manipulate functional objects displayed in the virtual work environment (see Abstract).

8. With respect to claim 1, Filo teaches a virtual reality system, comprising:

At least one virtual reality environment user equipment (VUE) operative to capture and transmit (Filo, col. 7, lines 26-30) real-world video and audio data (Filo, col. 3, lines 2-37 and col. 6, line 63 – col. 7, line 12) and to display received virtual reality data representing an actual physical environment (Filo, col. 2, lines 45-61); at least one virtual reality environment core system (VCS), wherein: the core system is in communication with at least two virtual reality environment subscriber databases (VSD), one of which has a relatively local location and at least one of which has a relatively remote location (Filo, col. 6, lines 33-52); the virtual reality environment core system being in wireless communication with the at least one VUE (Filo, col. 6, lines 22-27), the core system being operative to access the relatively local VSD, to retrieve respective subscription information of the at least one VUE if the core system is a respective home core system of the at least one VUE (Filo, col. 10, lines 35-51), and a virtual reality environment episode manager (VEME) which is in communication with

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the at least one virtual reality environment core system and is operative to forward the virtual reality data representing the environment to the at least one VUE and receive the real-world video and audio data from the at least on VUE, thereby facilitating a virtual reality episode (Filo, col. 6, lines 33-52).

Filo does not teach differentiating between local and remote subscription information databases.

However, Barnes teaches the core system being operative to access at least one of the at least one relatively remotely located VSD to retrieve respective subscription information of the at least one VUE if the core system is a visited virtual reality core system relative to the at least one VUE (Barnes, col. 12, line 55 – col. 13, line 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Filo in view of Barnes in order to enable differentiating between local and remote subscription information databases. One would be motivated to do so in order to allow a mobile node to seamlessly roam between networks.

9. With respect to claim 2, Filo teaches the invention described in claim 1, including the virtual reality system where the at least one virtual reality environment user equipment (VUE) is operative to capture the virtual reality data in real-time (Filo, col. 3, lines 60-67).
10. With respect to claim 3, Filo teaches the invention described in claim 1, including the virtual reality system where the at least one virtual reality environment user equipment (VUE) is operative to display the virtual reality data in real-time (Filo, col. 3, lines 60-67).

11. With respect to claim 4, Filo teaches the invention described in claim 1, including a virtual reality system, further comprising:

At least one additional VUE in hardwired communication with at least one of the at least one VCS (Filo, col. 7, lines 30-50).

12. With respect to claim 5, Filo teaches the invention described in claim 1, including the virtual reality system where the virtual reality episode is conducted between a plurality of virtual reality environment user equipment (VUE) (Filo, col. 6, lines 10-32).

13. With respect to claim 6, Filo teaches the invention described in claim 1, including a virtual reality system, comprising:

A virtual reality environment access system (VAS), wherein the virtual reality environment access system facilitates the wireless communication of the at least one virtual reality environment user equipment with the at least one virtual reality environment core system (Filo, col. 6, lines 22-27).

14. With respect to claim 7, Filo teaches the invention described in claim 1, including the virtual reality system where one of the at least one virtual reality core systems (VCS) comprises a virtual reality entity subscription database (VSD) (Filo, col. 10, lines 35-51).

15. With respect to claim 8, Filo teaches the invention described in claim 1, including the virtual reality system where the virtual reality environment episode management entity

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(VEME) is located within one of the at least one virtual reality environment core system (VCS) (Filo, col. 6, lines 33-52).

16. With respect to claim 9, Filo teaches a method of enabling the real-time establishment and conduction of a real-time virtual reality episode (VRE), comprising:

Receiving a request for establishing a virtual reality episode (VRE) from VRE user equipment (VUE); accessing a relatively local virtual reality environment subscriber database (VSD) to retrieve subscription information associated with the VUE (Filo, col. 10, lines 35-51) if an entity receiving the request is a respective home virtual reality core system of the VUE (Filo, col. 6, lines 33-52); receiving real time virtual reality data at a virtual reality environment (VRE) episode management entity (VEME) (Filo, col. 3, lines 60-67), wherein the virtual reality data is representative of an actual physical environment (Filo, col. 2, lines 45-61); determining, at a VRE episode management entity, that the virtual reality data is associated with the requested virtual reality episode; and forwarding, based on the accessed subscription information, at least a portion of the virtual reality data to the VUE (Filo, col. 6, lines 33-52), wherein the VRE user equipment is in wireless communication with the VRE episode management entity (VEME) (Filo, col. 6, lines 22-27), and wherein the VRE user equipment (VUE) is operative to capture, transmit (Filo, col. 7, lines 26-30) and display virtual reality data (Filo, col. 3, lines 2-37 and col. 6, line 63 – col. 7, line 12).

Filo does not teach differentiating between local and remote subscription information databases.

However, Barnes accessing a relatively remote VSD to retrieve respective subscription information of the VUE if the entity receiving the request is a visited virtual reality core system (VCS) relative to the VUE (Barnes, col. 12, line 55 – col. 13, line 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Filo in view of Barnes in order to enable differentiating between local and remote subscription information databases. One would be motivated to do so in order to allow a mobile node to seamlessly roam between networks.

17. With respect to claim 10, Filo teaches the invention described in claim 9, including further comprising capturing and transmitting (Filo, col. 7, lines 26-30) in real time, virtual reality data representative of an actual physical environment prior to receiving the real time virtual reality data at a virtual reality environment (VRE) episode management entity (VEME) (Filo, col. 2, lines 45-61).
18. With respect to claim 11, Filo teaches the invention described in claim 10, including where capturing in real time, virtual reality data comprises capturing real time audio associated with the actual physical environment (Filo, col. 3, lines 2-37 and col. 6, line 63 – col. 7, line 12).
19. With respect to claim 12, Filo teaches the invention described in claim 10, including the method wherein capturing in real time virtual reality data comprises capturing in real time virtual reality data representative of an actual physical environment (Filo, col. 2, lines 45-61)



located geographically distant from the VRE user equipment (VUE) (Filo, col. 6, lines 10-27).

20. With respect to claim 13, Filo teaches the invention described in claim 9, including the method further comprising identifying the VRE user equipment (VUE) as participating in the virtual reality episode prior to forwarding at least a portion of the virtual reality data to the VRE user equipment (VUE) (Filo, col. 10, lines 35-51).

21. With respect to claim 14, Filo teaches the invention described in claim 9, including the method further comprising determining the location of the VRE user equipment (VUE) prior to forwarding at least a portion of the virtual reality data to the VRE user equipment (VUE) (Filo, col. 10, lines 35-51).

22. With respect to claim 15, Filo teaches the invention described in claim 9, including the method wherein determining the location of the VRE user equipment (VUE) comprises querying a database for the location of the VRE user equipment (VUE) (Filo, col. 10, lines 35-51).

23. With respect to claim 16, Filo teaches a virtual reality system that enables the real-time conduction of a virtual reality episode, comprising:

At least one virtual reality environment user equipment (VUE) operative to capture and display virtual reality data associated with at least one user (Filo, col. 3, lines 2-37 and col. 6,

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line 63 – col. 7, line 12); at least one virtual reality environment core system (VCS), where the at least one VCS has a pre-existing relationship with one of the at least one VUE and the at least one user (Filo, col. 10, lines 35-51); a plurality of virtual reality environment access systems (VAS), where each respective VAS of the plurality provides wireless connectivity for respective ones of the at least one VUE (Filo, col. 6, lines 22-27), where the respective VAS relays messages between the VUE and the at least one VCS; and a virtual reality environment episode management entity (VEME), in communication with the at least one user and the at least one VCS (Filo, col. 6, lines 33-52), where the VEME forwards real time virtual reality data (Filo, col. 3, lines 60-67) representative of an actual physical environment (Filo, col. 2, lines 45-61) to the at least one VUE associated with the at least one user through wireless connectivity services (Filo, col. 6, lines 22-27) of the respective VAS currently serving the at least one VUE of the at least one user based on VUE or user location and/or mobile link information maintained by the VEME (Filo, col. 6, lines 33-52).

Filo does not teach differentiating between local and remote subscription information databases.

However, Barnes teaches where responsibility for providing connectivity is handed off from a first respective VCS to a second respective VCS if the respective ones of a the at least one VUE move out of a first geographic region served by the first respective VCS and into a second geographic region that is served by the second respective VCS (Barnes, col. 12, line 55 – col. 13, line 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Filo in view of Barnes in order to enable differentiating between local

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and remote subscription information databases. One would be motivated to do so in order to allow a mobile node to seamlessly roam between networks.

24. With respect to claim 17, Filo teaches a method of participating in a real-time virtual reality episode, comprising:

Providing a virtual reality environment user equipment (VUE), wherein the virtual reality user equipment (VUE) captures and displays virtual reality data representing an actual physical environment associated with a first user (Filo, col. 2, lines 45-61); wirelessly (Filo, col. 6, lines 22-27) transmitting the captured virtual reality data to a first virtual reality environment access systems (VAS) (Filo, col. 7, lines 26-30); communicating the captured virtual reality data to intervening network elements including a second VAS (Filo, col. 6, lines 33-52); accessing a relatively local virtual reality environment subscriber database (VSD) to retrieve subscription information associated with a second user participating in the virtual reality episode (Filo, col. 10, lines 35-51), if an entity in communication with the second user is a home virtual reality core system (H-VCS) of the second user (Filo, col. 6, lines 22-32); and wirelessly (Filo, col. 6, lines 22-27) transmitting the virtual reality data from the second VAS to the second user as authorized by the subscription information associated with the second user (Filo, col. 7, lines 26-30), wherein the second VAS and the second user are geographically remote from the first user (Filo, col. 6, lines 10-52).

Filo does not teach differentiating between local and remote subscription information databases.

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However, Barnes teaches accessing a relatively remote VSD to retrieve subscription information of the second user if the entity in communication with the second user is a visited virtual reality core system (V-VCS) relative to the second user (Barnes, Fig. 4, elements 20 and 286; col. 8, line 12).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Filo in view of Barnes in order to enable differentiating between local and remote subscription information databases. One would be motivated to do so in order to allow a mobile node to seamlessly roam between networks.

25. With respect to claim 18, Filo teaches the invention described in claim 17, including the method further comprising receiving, from the second user, data representing one or more actions performed by the second user (Filo, col. 7, lines 26-30).

26. With respect to claim 19, Filo teaches the invention described in claim 17, including the method wherein wirelessly (Filo, col. 6, lines 22-27) transmitting occurs automatically after the VRE user equipment captures the virtual reality data (Filo, col. 7, lines 26-30).

27. With respect to claim 20, Filo teaches a system that is operative to provide virtual reality data services to a subscriber using virtual reality environment user equipment (VUE), the system comprising:

A virtual reality environment episode management entity (VEME) that is operative to manage, coordinate, synchronize and maintain event information between participants and

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information sources associated with a virtual reality episode; a virtual reality environment control entity (VECE) that is operative to control virtual reality episodes associated with the subscriber or the VUE (Filo, col. 6, lines 33-52) by accessing a local virtual reality environment subscriber database (VDS) if the VECE is a home VECE of the subscriber or VUE, to determine subscription information associated with the subscriber and/or the VUE, and providing system access and/or services to the VUE (Filo, col. 10, lines 35-51), relaying messages between the VUE and the VEME according to the subscriber information and the mobile links (Filo, col. 6, lines 33-52), and a virtual reality environment access system (VAS), where the VAS provides wireless connectivity for the VUE if the VUE is located in a respective geographic region served by the VAS (Filo, col. 6, lines 22-27), and where the VAS relays messages between the VUE and the VECE (Filo, col. 6, lines 33-52).

Filo does not teach differentiating between local and remote subscription information databases.

However, Barnes teaches accessing a remote virtual reality environment subscriber database (VSD) (Barnes, Fig. 4, elements 20 and 286; col. 8, line 12), if the VECE is a visited VECE relative to the subscriber or VUE, (Barnes, col. 12, line 55 – col. 13, line 1), where the responsibility for providing connectivity is handed off from the VECE if the VUE moves out of a first geographic region served by the first VECE (Barnes, col. 12, line 55 – col. 13, line 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Filo in view of Barnes in order to enable differentiating between local

and remote subscription information databases. One would be motivated to do so in order to allow a mobile node to seamlessly roam between networks.

28. With respect to claim 21, Filo teaches the invention described in claim 20, including the system comprising:

At least one additional virtual reality environment VECE that is operative to control virtual reality episodes associated with at least one additional subscriber using at least one additional VUE (Filo, col. 6, lines 33-52) by accessing a local virtual reality environment subscriber database (VSD) if the VECE is a home VECE of the at least one additional subscriber or VUE, to determine at least one additional set of subscription information associated with the at least one additional subscriber and/or the at least one additional VUE, and providing system access and/or services to the at least one additional VUE (Filo, col. 10, lines 35-51), relaying messages between the at least one additional VUE and the VEME according to the subscriber information and the mobile links (Filo, col. 6, lines 33-52), where each respective additional VAS provides wireless connectivity for the at least one additional VUE if the at least one additional VUE is located in a respective geographic region served by the respective additional VAS (Filo, col. 6, lines 22-27), and where the respective additional VAS relays messages between the at least one additional VUE and a respective one of the at least one additional VECE (Filo, col. 6, lines 33-52).

Filo does not teach differentiating between local and remote subscription information databases.

However, Barnes teaches accessing a remote virtual reality environment subscriber database (VSD), if the VECE is a visited VECE relative to the at least one additional subscriber or VUE, and at least one additional virtual reality environment access systems (VAS) associated with the at least one additional VECE (Barnes, col. 12, line 55 – col. 13, line 1), and where responsibility for providing connectivity is handed off from a first respective additional VAS to a second respective additional VAS if the at least one additional VUE moves out of a first additional geographic region served by the respective first additional VAS and into a second additional geographic region that is served by a second respective additional VAS (Barnes, col. 12, line 55 – col. 13, line 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Filo in view of Barnes in order to enable differentiating between local and remote subscription information databases. One would be motivated to do so in order to allow a mobile node to seamlessly roam between networks.

29. With respect to claim 22, Filo teaches the invention described in claim 21, including the system comprising:

At least one additional virtual reality environment VECE that is operative to control virtual reality episodes associated with at least one additional subscriber using at least one additional VUE (Filo, col. 6, lines 33-52) by accessing a local virtual reality environment subscriber database (VSD) if the VECE is a home VECE of the at least one additional subscriber or VUE, to determine at least one additional set of subscription information associated with the at least one additional subscriber and/or the at least one additional VUE,

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and providing system access and/or services to the at least one additional VUE (Filo, col. 10, lines 35-51), relaying messages between the at least one additional VUE and the VEME according to the subscriber information and the mobile links (Filo, col. 6, lines 33-52), where each respective additional VAS provides wireless connectivity for the at least one additional VUE if the at least one additional VUE is located in a respective geographic region served by the respective additional VAS (Filo, col. 6, lines 22-27), and where the respective additional VAS relays messages between the at least one additional VUE and a respective one of the at least one additional VECE (Filo, col. 6, lines 33-52).

Filo does not teach differentiating between local and remote subscription information databases.

However, Barnes teaches a virtual reality environment gateway entity that is operative to provide boundary entity services that facilitate a communication of messages between the VECE and the at least one additional VECE, the boundary entity services including at least one of firewall services hiding underlying network structure, facilitating the flow and routing of virtual reality episode control signals, and converting or translating signals or protocols between elements of the system (Barnes, Fig. 4, element 264; col. 8, line 63 – col. 9, line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Filo in view of Barnes in order to enable differentiating between local and remote subscription information databases. One would be motivated to do so in order to allow a mobile node to seamlessly roam between networks.



***Response to Arguments***

30. Applicant's arguments filed 20 October 2006 have been fully considered, but they are not persuasive for the reasons set forth below.

31. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

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***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Baturay whose telephone number is (571) 272-3981. The examiner can normally be reached at 7:30am - 5pm, Monday - Thursday, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alicia Baturay  
December 28, 2006

*Philip Tran*  
PRIMARY EXAMINER